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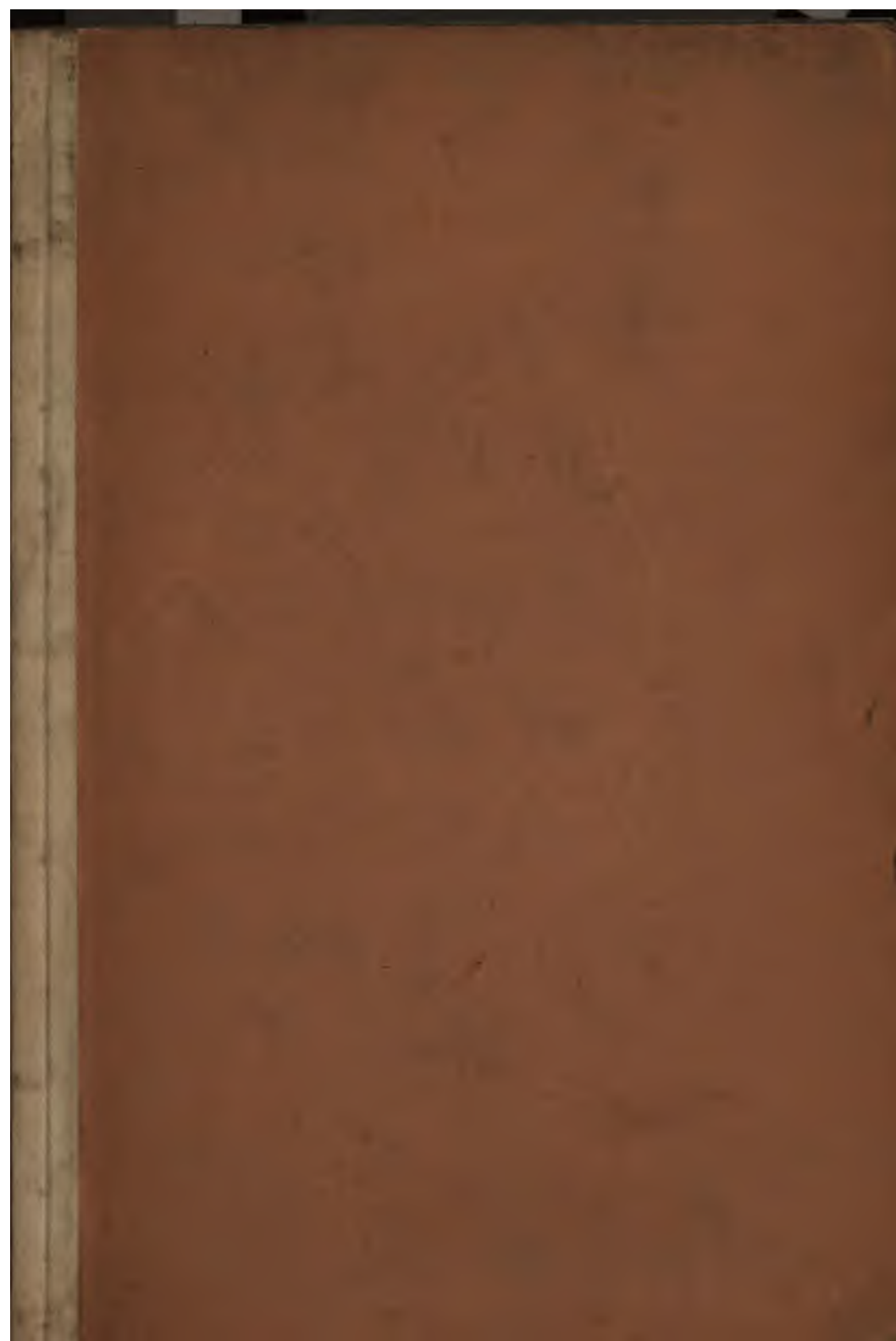
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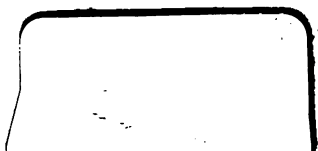
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THE
GROWTH AND MANUFACTURE
OF
CANE SUGAR
IN THE
ARGENTINE REPUBLIC.

BY
H. ST. JOHN WILEMAN.

L O N D O N .

1884.

profit power of any given agricultural product, subjectively to the relative position which each individual country bears to the world's area capable of yielding like products.

Artificial aids to production by way of bounties or protective custom duties are, however, only justifiable and expedient in those countries where the primary conditions of successful growth of any article of daily consumption are found existing parallel with insufficiency of home production.

The rapid development of sugar-growing in the Argentine Republic is distinctly attributable to the joint influence of the suitability of soil and climate, and the opening up of railway communication, coinciding with a large home consumption of sugar, which recently was entirely, and is to-day, mainly, supplied by its importation from foreign countries.

The inhabitants of the Argentine Provinces of Tucuman, Salta, Jujuy, Corrientes, and Misiones have from time immemorial cultivated the sugar cane with good success. And this was more especially the case during the period of the history of these countries, which immediately preceded the violent destruction—offspring of base suspicion and jealousy—of that wondrous framework of prospering, joyous, and laborious communistic life, which was slowly built up with the apparently unpromising materials of the Guarani and Quichua races, by the sympathetic discipline, stern self-sacrifice, and unerring human instinct of the noble Jesuit fraternity, during the brightest page of its chequered history.

Down to the year 1866, the farmers and peasants of these provinces limited their efforts to producing, with the rudest appliances, a yearly provision of coarse brown sugar and rum, sufficient for the domestic wants of their households, and had they been otherwise disposed, the enormous difficulties attending transport and the consequent enhanced cost of machinery would have effectually deterred the most venturesome pioneer.

In 1874, the total quantity of sugar produced in the Republic, did not exceed twelve hundred tons.

But the establishment and opening up of through railway communication, between Tucuman and the port of Rosario, by the construction of the North Central Argentine Railway, endowed that province with expeditious and comparatively cheap carriage of all kinds of machinery, and a ready market throughout the Republic for all the sugar it could produce.

During the five following years, by the energy of a small group of enterprising Argentines, amongst whom may be mentioned the names of Mendez, Posse, Paz, Avellaneda, Garcia, Roca and others, a large number of Factories and Sugar Estates were established, which, in the year 1880, yielded a total crop of 10,000 tons of sugar. ...

From this date to the end of 1883, the progress made in the planting of cane and erection of Factories in the Provinces of Tucuman, Santiago del Estero and Salta, has been prodigious. No less than thirty Factories have been erected, which, with those previously established, gave a total yield in 1883 of about 20,000 tons of sugar.

According to the best sources of information, sugar factories in Tucuman and Santiago del Estero, which grow their own cane, realize a profit ranging from 20 per cent. to 35 per cent. per annum.

This rate of profit appears high, but fully stands the test of an analytical examination.

In the Official Gazette of the Argentine Department of Agriculture, Mr. T. Brú conclusively proves that the farmer grows his cane at a cost from the second year of its growth (inclusive) of 8s. 2d. per ton, and finds ready purchase for it at 20s. per ton delivered at the factory, clearing a net annual profit of a trifle more than one hundred and ten per cent. per annum.

Argentine sugar-cane yields from 6 per cent. to 7 per cent. of its weight in sugar, the density of its juice being from 9° to 10° Baumé.

The ratoon ripens every twelve months, the annual crop being from 25 tons to 30 tons to the acre.

hundred gallons of rum (1600 × 18)							
would be produced, leaving a net							
profit to the Factory of per annum ...				£19,529	15	6	
Deduct salaries of manager							
and superior employés				£800	0	0	
Wear and tear of machinery							
5 per cent.	966	1	0		
				<hr/>			
				£1,766	1	0	
				<hr/>			
*Net annual profit ...				£17,763	14	6	
				<hr/>			

The above facts conclusively show the exceptionally profitable results given by the growth and manufacture of cane-sugar in the Argentine Republic, results which will necessarily vary in degree proportionately to the quality, supply, and price of the canes in each district; to the freights payable for transport of machinery; and to the volume of consumption of the manufactured article within the immediate circuit of the districts in which factories are established.

These exceptionally profitable results take their origin in the following special conditions, which govern the production and profit value of cane-sugar throughout the country. The Argentine Republic annually consumes 46,000 tons of sugar, while the production of native-grown sugar has not, to date, exceeded 22,000 tons.

The importation of foreign sugar for 1883 was about 27,000 tons, which, in addition to ocean freights and other heavy charges, is subject to a custom's duty of £10 3s. 2½d. per ton, which constitutes a clear bounty of at least £14 3s. 2½d. per ton in favour of the home-grown sugar. Further, on all the Government railways, the rate of freight on foreign sugar carried inland from the port of its entry is, in most instances, double the rate charged for the carriage of sugar coastwards from the inland centres of production.

The fact, however, that no Argentine Sugar Factory hitherto established, has failed to earn handsome profits, although frequently erected on unduly lavish, and extravagant lines of cost, and by no

* If the factory grow its own cane, a minimum sum of £7,500 clear profit on the production of 15,000 tons of canes must be added to the above stated manufacturing profit of £17,763 14s. 6d.

means carefully and economically managed, is the best proof of the solidity of the business. It is, however, my opinion that the Argentine Republic can never attempt to manufacture sugar for Exportation, but must distinctly limit the development of the industry to an output of the article sufficient to meet the large deficit existing between the Home consumption of sugar and its supply from native sources of manufacture.

As this consumption, as has been stated, is large and rapidly increasing, there is a wide and ample field for the successful erection and working of twice as many factories as are already in active work. It has, however, already been suggested that the conditions which rule the cultivation and quality of the cane, vary considerably in the five principal cane-producing districts of this Republic; and not only so, but also that the cost of the erection of a factory and the relative profit on the sale of its manufactured sugar, are profoundly affected by the character and cheapness of the transport facilities which each district enjoys, both locally, and in connection with the coast and the principal centres of demand for its sugar.

The comparative advantages which the sugar planter enjoys in the five more important sugar-growing districts of the Argentine Republic, may be summed up as follows :

	Quality of land.	Seasonable coincidence of Rainfall.	Irrigation.	Yield of Cane tons per acre.	Yield of Juice.	Percentage of Sugar in the Juice.	Average yield of sucrose matter per acre.
Tucuman	Good.	Unseasonable.	} Absolutely necessary.	17 to 25	} 60 per cent. to 62 per cent.	14½	1½ tons.
Santiago del Estero....	Superior.	Unseasonable.		20 to 25		16	2 to 3 tons.
Salta & Jujuy	Superior.	Unseasonable.		25 to 30		16 to 17	3 to 4 tons.
Corrientes & Misiones	Very superior.	Seasonable.	Not necessary.	25 to 30		17 to 18	5 4-5 tons.
The Gran Chaco	Very superior.	Seasonable.	Not necessary.	25 to 30		17 to 18	5 4-5 tons.

From the above table of comparison, it is clear that the North Central Districts of Tucuman, Santiago del Estero, Salta and Jujuy,

Santiago, and the greater part of the consumption of the Republic will be provided by them, and by a smaller suitable area on the upper Parana, certainly much more cheaply than would be possible were the sugar brought from the Interior, and perhaps as cheaply as it could be imported, free of the existing heavy duty of 25 per cent. "ad valorem" (which to the consumer may be taken to represent nearly 35 per cent)."

"My attention has been called to a letter from a correspondent of the *Standard* in Rosario, which appeared in a late issue, and I venture with reference to certain statements therein, which uncorrected might mislead and have a prejudicial effect on the progress of Misiones, one of the richest and most neglected parts of the Republic, to make the following remarks":—

"Irrigation is not necessary to obtain a yearly crop of sugar cane where rains fall principally at that period of the cane's growth, when they are beneficial—and this is the case in Misiones, and is not the case in Tucuman."

"Again, it is also completely erroneous to suppose that for the purposes of profitable manufacture, a cane plantation lasts fifteen, twenty, and thirty years in Tucuman. The fields may exist that time, but as affording raw material for profitable sugar manufacture, their average existence is not over three years; and all over Cuba—the best sugar land in the world, and having the best of all climates—five to six crops are usually expected by the most careful planters, and although I have frequently seen cane-fields go twenty-five years without replanting, I have always known that the planters would have replanted them, had he had means."

"The significant fact, however, that the average yield of cane per acre in Tucuman is about 17 tons, whereas in Barbadoes it is 36 (there is in Barbadoes almost garden culture), in Cuba 30 to 35 (I have myself obtained 51 tons), in Egypt 22, and in Brazil 25 to 30, shews that Tucuman is not a privileged sugar-cane country, and anyone who has a practical knowledge of cane would know this, by merely riding through the fields and seeing that the full-grown cane is rarely over five feet high, and sometimes less, just as he

would know the Misiones lands are good by seeing that the cane is usually nearly seven feet, and thicker than the less favoured Tucuman plant."

"In Santiago the cane is better, the land and climate being superior to that of Tucuman, and in Salta and Jujuy there is very good cane indeed."

"As to the statement about the superior quality of sugar made from Tucuman cane, this is a mere matter of more or less careful and properly conducted manufacture, *all pure sugar from all cane, good or bad being exactly the same in substance, appearance, and flavour.*"

"Some canes give juice more easily worked and more profitably worked than others, and sometimes it pays to make impure sugar, or bad sugar, better than to make good sugar, but the finest sugar can be made anywhere in the world from poor cane, with good work and good apparatus."

"The average per centage of sugar in the juice in Tucuman is $14\frac{1}{2}$, and it is expected, and is nearly certainly ascertained that in Misiones, the average per centage will be 18, nearly 25 % more. The average yield of juice from the canes when well ground in Tucuman, is 60 % to 62 % of their weight, and this is the average yield in all parts of the world, saving in the case of exceptionally dry cane; but an acre of land in Misiones will give an average quantity of raw material containing $5\frac{1}{2}$ tons of saccharine matter, of which the yield in crystals and spirit will depend on the care and skill with which the manufacturing process is performed—whereas an acre of land in Tucuman gives an average quantity of raw material containing only $1\frac{1}{2}$ tons of saccharine matter, of which the yield in the same marketable products will depend on the same conditions. As labour is obtainable in Misiones at rates as low as those of the interior, and carriage to Buenos Ayres is only \$f.14 per ton, it is deducible from these and the foregoing considerations, that it will be prudent to try sugar making in Misiones, generally on the Uruguay side, and on a portion of the Parana side, on a large scale; and there would appear to be room for considerable hesitation in investing capital in a sugar plantation in Tucuman or Santiago del Estero, which can hardly fail to find themselves

sooner or later, in a similar position to that of the rich valleys of Cuatla and Cuernavaca in Mexico, where the planters, being at too great a distance from a port to export at a profit (except when the price of sugar is abnormally high), and having found that the production on the coast and in more accessible points of the interior has been able to supply cheaper than they can do, all but the demand of their immediate neighbourhood, have reluctantly but unavoidably agreed to reduce their output, preferring to make a moderate quantity of sugar and sell it at good prices to cutting one another's throats by making a large quantity and selling it at poor prices; and this, it may be presumed, would be the view of the case that all prudent investors would take—a prudent investor being not generally a person inclined to sacrifice his own interests for those of the community at large.”

“I have the honour to be, SIR,

“Your obedient servant,

(Signed)

“V. WALBRAM CHAPMAN.”



the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million, from 2.5 million in 1980 to 4 million in 1995. The public sector has grown from 10% of the economy to 15% of the economy.

There is a growing awareness of the need to improve the efficiency of the public sector. The public sector is a major employer in the UK, and it is important to ensure that it is able to provide the services that are required by the public. The public sector is also a major source of revenue for the government, and it is important to ensure that it is able to generate the revenue that is required to fund the public services.

The public sector is a complex organization, and it is difficult to improve its efficiency. There are many factors that can affect the efficiency of the public sector, including the size of the organization, the quality of the management, and the quality of the services. It is important to identify the factors that are affecting the efficiency of the public sector, and to develop strategies to improve it.

One of the most important factors that can affect the efficiency of the public sector is the quality of the management. The management of the public sector is often criticized for being inefficient and wasteful. It is important to ensure that the management of the public sector is able to provide the services that are required by the public, and that it is able to generate the revenue that is required to fund the public services.

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